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A SYSTEM FOR COLOUR COSMETIC SELECTION

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dispensing system for blending selected additives to formulate the selected product.

Field of the Invention

The present invention relates to a method and implementing apparatus for assisting a customer in selecting colour cosmetic products.

BACKGROUND OF THE INVENTION & PRIOR ART

Colour cosmetics are highly personal to an individual. An optimum shade is selected having relevance to a customer's skin coloration and to a colour fancied by the customer.

Assistance in the selection of an optimal colour shade is available to help the consumer. Clinique and Clarion have installed computers at sales counters for use by customers. Information on colour, shade, oiliness and other properties of a customer's skin are punched into the computer which then determines the company's most closely matching product. Two major companies, Prescriptives (Division of Estee Lauder) and Visage (Division of Revlon) have for some time practiced a manual system for evaluating a subject's skin colour. The sales person is trained through the use of match cards to identify a user's matching skin foundation. Unfortunately manual systems suffer from poor reproducibility. Extensive training must also be invested in a sales person.

German Patent 41 10 299 C1 (Erdtmann) discloses the use of a facial sensor for reading skin property values and then utilising the measured values in selecting an optimum skin product. Subsequently, the information is sent to an automatic cosmetic

U.S. Patent 5,622,692 (Rigg et al.) reports a system for customising a facial foundation product at point of sale to a customer. Three essential elements are present. They include a skin analyser for reading skin properties, a programmable device receiving the reading and correlating it with an optimal formula and a formulation machine for preparing the facial foundation

product from various cosmetic chemical compositions. Technology described in this patent has commercially been embodied in Elizabeth Arden's Custom Colour system available for many years in major department stores.

Arden's system has been a significant advance in the art. However, it suffers from certain deficiencies, including the inability of customers to evaluate different colour cosmetics in the context of their own skin colouration, and in juxtaposition to combinations of different facial makeover products. Thus it would be desirable to have visualised a lipstick and a foundation, eye shadow and/or blush on a colour interactive basis. Especially desirable would be to evaluate the interaction of the various colour cosmetics without actually having to place these on one's own face.

Accordingly, it is an advantage of the present invention to provide a system and apparatus for selecting a facial colour cosmetic scheme from a palette of different shades and makeup products without requiring the actual placement of these products on the customer's face.

Another advantage of the present invention is to provide a system and apparatus for selecting a facial colour cosmetic scheme allowing rapid visualisation of different coloured makeup

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permutations on various areas of the face in a simultaneous manner.

SUMMARY OF THE INVENTION

- 5 The present invention provides a method for selecting a facial cosmetic colour scheme, the method including:
- (i) providing a computer module including a color monitor screen and a spectrophotometer;
 - 10 (ii) measuring a customer's facial colour with the spectrophotometer;
 - (iii) transmitting information on the measured facial colour to the computer module for display of that colour on a model face generated on the monitor screen;
 - 15 (iv) allowing the customer to select at least one area of the face to be coloured with a colour cosmetic product; and
 - (v) colouring the area of the model face with the selected colour.

Optionally, a further step may be added involving printing on paper the coloured display from step (v) appearing on the monitor.

By this method, a customer can select eye shadow, eye liner, 25 lipstick, lip liner, blush, foundation and/or powder with selected colours, at least some of the combination having been first evaluated on a model face generated on the computer monitor screen. A program controlling the colour and selection scheme can further be included to correlate a vendor's products which will 30 achieve the selected colour palette.

According to a further aspect, the present invention provides a system for selecting a facial colour cosmetic scheme, the system including:

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- permutations on various areas of the face in a simultaneous manner.
- (i) a computer module connected with a colour monitor screen;
 - (ii) a spectrophotometer for measuring skin colour;
 - 5 (iii) a mechanism for transfer of facial colour data obtained from measurements with the spectrometer over to the computer module and transmission onto the monitor screen; and
 - (iv) an interactive program displayed on the monitor allowing the customer to select at least one colour for application to an area of a model face appearing on the monitor.

BRIEF DESCRIPTION OF THE DRAWINGS

- 10 15 The various objects, features and advantages of the present invention will become more readily apparent from consideration of the following drawing in which:
- Fig. 1 shows a flow chart diagramming a program used in the 20 system of the invention for selecting facial colour cosmetic schemes;

- Fig. 2 shows Screen 2 of the program;
- 25 Fig. 3 shows Pop-Up Screen 3 of the program;
- Fig. 4 shows Pop-Up Screen 4 of the program;
- Fig. 5 shows Overlay 5 of the program;
- 30 Fig. 6 shows Screen 6 of the program;
- Fig. 7 shows Overlay 7 of the program;

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Fig. 8 shows Pop-Up Screen 8 of the program;

Fig. 9 shows Pop-Up Screen 9 of the program;

Fig. 10 shows Pop-Up Screen 10 of the program;

Fig. 11 shows Pop-Up Screen 11 of the program;

Fig. 12 shows Pop-Up Screen 12 of the program;

Fig. 13 shows Pop-Up Screen 13 of the program;

Fig. 14 shows Pop-Up Screen 14 of the program;

Fig. 15 shows Overlay Screen 15 of the program;

Fig. 16 shows Pop-Up Screen 16 through 19 of the program;

Fig. 17 shows Pop-Up Screen 20 of the program;

Fig. 18 shows Pop-Up Screen 21 of the program;

Fig. 19 shows Pop-Up Screen 22 of the program;

Fig. 20 shows Pop-Up Screen 23 of the program;

Fig. 21 shows Screen 24 of the program;

Fig. 22 shows Overlay 25 of the program; and

Fig. 23 shows a printout of a stylised model face provided as a printout from the method according to the present invention including recommendation for various different types of colour cosmetics.

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DETAILED DESCRIPTION OF THE INVENTION

5 Now it has been found that a customer can evaluate how different colour cosmetics can interact by first visualising different colours on different areas of the face through computerised painting of a model face upon a monitor screen. In this system a customer is allowed to select colours to be placed on different 10 areas of the model face. A reiterative procedure then occurs. This involves the customer selecting a colour, having the program paint the selected colour onto the stylised model face and then allowing the customer to evaluate the result. No longer must a customer actually try the product on his or her own face. A very 15 rapid and clean evaluation can occur through use of the visualised model face.

A customer's actual facial colour can be measured by a spectrophotometer/colorimeter of a type having a visible light source, such as light emitting diodes (LED), xenon-arc, tungsten-halogen and similar type in the wavelength range of 400-900 nm. The visible light source may form the sensor portion of the spectrophotometer/colorimeter. Both visible and infrared wavelength light may be utilised in connection with the sensor 20 portion. Suitable skin analysers are commercially available from Minolta Camera Co. Ltd., Japan and from Colortec Associates. Actual skin colour normally is measured around neckline areas which are free of a customer's foundation or other cover-up cosmetics.

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Measurement starts by cleaning the areas preparatory to a reading. The spectrophotometer/colorimeter is then placed in proximity to the cleaned facial area. Visible light emitted in the 400-900 nm range by the device will be reflected off the skin surface and the

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reflective wavelength measured. It is recommended that at least five skin readings along the neck/jaw line region be taken. Total time for the reading requires approximately 30 seconds. A cable connecting the spectrophotometer/colorimeter to the computer module transmits the measured information on L, a and b thereby inputting a customer's natural skin colour parameters into the database. Alternatively the measured values can be read by the measuring consultant directly off of the spectrophotometer/colorimeter and manually banked into the computer module by typing the information on a linked keyboard.

By the term "computer module" is meant any programmable device capable of processing information. Normally these are personal computers.

Fig. 1 is a flow chart of a program according to one embodiment of this invention. After the opening screen, a user is introduced to Screen 2 known as the 'customer session'. Client information is obtained via this screen through either a swipe card, entry via a keyboard or from a database. The screen remains active (buttons are available) when overlays are displayed. Fig. 1 provides a view of Screen 2.

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A Pop-up Screen 3 next appears with comments and client information to prompt follow-up calls. This screen can be used for contacting the client to remind them to visit the store when their cosmetic supply may be low. Fig. 3 illustrates the screen.

Pop-up Screen 4 covering 'Maintenance' is then available for appearance. This pop-up screen has options for calibration and data handling. Fig. 4 sets forth the screen.

Other information is collected with Overlay Screen 5. The Overlay screen selects/changes information about skin, beauty habits, type

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and brand of products used. Overlay Screens 2 and the buttons on Screen 2 remain active. Fig. 5 describes Overlay Screen 5.

Screen 6 provides a 'Consultant's Choice'. This screen shows 5 effects of colour palette, using client's skin colour. Information on the client's skin colour is obtained through application of a hand-held spectrophotometer against areas of the face not likely to be covered by makeup. These areas include the neck and under chin areas. The cosmetic 'look' can either be based on skin colour (skin recommendation), lipstick colour (colour family), or a specific look. Depending on selections, a list of typically five 'looks' is created, and selecting (another look) displays next look in the series. Fig. 6 sets forth Screen 6.

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Purchase information is achieved in Overlay Screen 7. This screen with previous and current purchase information (overlay to screen 2) is ordered by visit date. It contains information from up to the last five visits. Purchase information includes number, product type, product name and product number. Fig. 7 sets forth the purchase information screen.

Pop-up Screen 8 measures skin colour. It consists of a series of screens to assist an adviser with colour measurement. This 25 session is repeated three times. Fig. 8 depicts the Pop-up Screen 8.

Pop-up Screen 9 serves to obtain information for a new store. It is used by the installation team to correctly set up the store-specific parameters. Fig. 9 describes the Pop-up Screen 9.

Collection of data for the main office is found in Pop-up Screen 10. Data is placed in a store's outbox, and can then be transferred in three ways. These include: (1) remote computer can

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dial in and retrieve file from outbox; (2) transfer information to a server automatically using PC-anywhere script; and/or (3) copied to floppy disk and mailed to central site. Fig. 10 illustrates the Pop-up Screen 10.

5 Pop-up Screen 11 copies data from other stores. It can accept data in two ways. These include: (1) update using floppy supply by the main office; or (2) use of PC/Anywhere script to retrieve update file from main office outbox. Fig. 11 illustrates the Pop-up Screen 11.

10 Pop-up Screen 12 allows selection of a colour lipstick family. The customer advisor can either enter a specific lipstick number, or choose a colour family, then choose a colour from the family. 15 The active colour palette will consist of individual palettes that contain that lipstick. The advisor can also enter a specific look (can be either from a previous visit or any of the available looks in the palette). Fig. 12 describes the pop-up Screen 12.

20 Pop-up Screen 13 allows selection of lipstick from a colour family (as selected from Pop-up Screen 12). If the lipstick is also in the palette recommendation based on skin tone, the colour is put first in the list, and (expert fit) is added to the name. Fig. 13 describes the Pop-up Screen 13.

25 Pop-up 14 shows product selections (treatments in cosmetic colours) made during the present session. Product selections can be made during colour viewing (Screen 6), treatment/product options (Overlay 24) or Recommended Foundation (Pop-up Screen 20). 30 There also is a display of recommended looks. Fig. 14 describes the Pop-up Screen 14.

Overlay Screen 15 is used to provide a snapshot of the type of customer. For detail purchase history, Overlay 7 provides the

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purchase information. Included in this screen are key purchase properties, group by type, over the past twelve months. It is automatically displayed for each customer. Fig. 15 lists the Overlay Screen 15.

5 Pop-up Screen 16 is a probe for calibration/routine and for messages to calibrate probe. Fig. 16 details the Pop-up Screens 16-19.

10 Pop-up Screen 20 is used to recommend the best foundation product combination based on skin colour and product preferences. Fig. 17 details the Pop-up Screen 20.

15 Pop-up Screen 21 is an advanced data management module. This is used by the main office. Fig. 18 details the Pop-up Screen 21.

Pop-up Screen 22 relates to language selection. Fig. 19 details Pop-up Screen 22.

20 Pop-up Screen 23 is used to locate and activate a client. If this is a new client, the 'new' button is clicked to create the new client file. Fig. 20 details Pop-up Screen 23.

25 Screen 24 details treatment/colour/fragrance options showing all the option products. Fig. 21 details Screen 24.

Overlay 25 focuses on skin colour analysis allowing selection of shade and tone. Fig. 22 details the Overlay 25.

30 The foregoing description illustrates selected embodiments of the present invention. In light thereof variations and modifications will be suggested to one skilled in the art, all of which are within the scope of this invention.

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CLAIMS:

1. A method for selecting a facial colour cosmetic scheme, the method comprising:
 - 5 (i) providing a computer module including a colour monitor screen and a spectrophotometer;
 - (ii) measuring a customer's facial colour with the spectrophotometer;
 - (iii) transmitting information on the measured facial colour to the computer module for display of that colour on a model face generated on the monitor screen;
 - (iv) allowing the customer to select at least one area of the face to be coloured with a colour cosmetic product; and
 - 10 (v) colouring the area of the model face with the selected colour.
2. The method according to claim 1 further comprising the steps of printing in colour on paper the displayed model face via a printer.
3. The method according to claim 1 or claim 2 wherein areas of the face to be coloured are those selected from the lips, 20 eyelashes, eyelid, cheeks and combinations thereof.
4. The method according to any of the preceding claims wherein a program operated by the computer module stores information on a vendor's products which will achieve the selected colour when 25 placed upon the selected area of the face.
5. A system for selecting a facial colour cosmetic scheme, the system comprising:

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1. a computer module connected with a colour monitor screen;
- (i) a spectrophotometer for measuring skin colour;
- (ii) a mechanism for transfer of facial colour data obtained from measurements with the spectrometer over to the computer module and transmission onto the monitor screen; and
- 5 (iii) an interactive program displayed on the monitor allowing a customer to select at least one colour for application to an area of a model face appearing on the monitor.
- 10 (iv)

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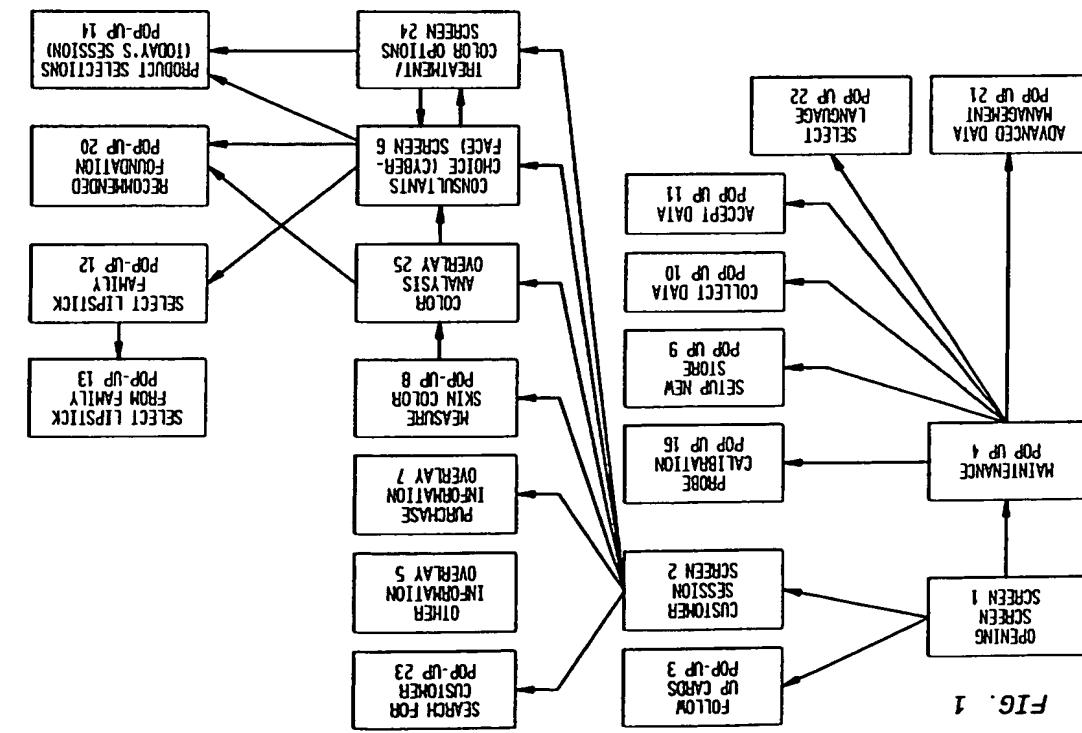
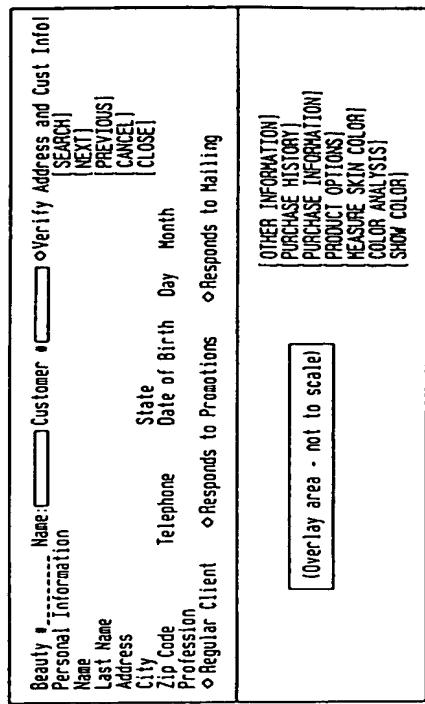
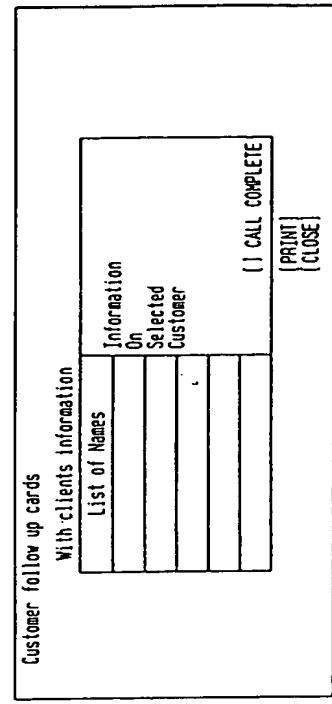


FIG. 2



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FIG. 4

Maintenance
[CALIBRATE SKIN READER]
[LANGUAGE]
[SET UP NEW STORE]
[COLLECT DATA FOR MAIN OFFICE]
[ACCEPT DATA FROM LOCAL STORES]
[ADVANCED DATA MANAGEMENT]
[CLOSE]

FIG. 6

(Customer Name)
(Date)
Cyber face Screen With look #, and individual color name
[ANOTHER LOOK]
[SELECT LIPSTICK FAMILY]
[CONSULTANT'S CHOICE]
[PRODUCT OPTIONS]
[FOUNDATION]
[CLOSE]
PRODUCT SELECTIONS

FIG. 5

OTHER INFORMATION			
Skin Type	Age Profile	Beauty Habits	Fragrance
<input checked="" type="radio"/> Sensitive	15-20	Make-up Cleanser/Toner	Cologne Perfume
	20-30	Moisturizer	More than one Special Treat.
Normal to dry	30-40	Bath Line	Clarins Clinique
Normal to oily	40-50	Sunscreens	Dior
Dry	50+	Body Products	Estee Lauder H. Rubenstein
Oily			Lancaster Shiseido YSL Other
[Accept]			
Special Preferences of Needs: Prefers fragrance free products			

FIG. 7

Purchase Information			
Date	1	JANE DOE	
Today	1	JANE DOE	Purchased
(1) Lipstick	125		Recommended
(1) Highlight		Bisque	Not Appropriate
(1) Mousse		Bisque	Not Appropriate
			Sample
			[Remove]
Date	905	JANE DOE	
(2) Ceramide Complex		Sampled	
Today		Plus	Recommended
Look 001		Reds	Recommended
Look 003		Naturals	Recommended
Look 004			

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FIG. 8

MEASURE SKIN WITH COLOR READER
PRESS MEASURE TO RECORD COLOR FROM READER
OR ENTER L, A, B VALUES FROM REMOTE

L.	A.	B.
L.	A.	B.
L.	A.	B.

COLOR READER IDENTIFICATION:.....

Foundation Color Match:..... [MEASURE] [ACCEPT] [CANCEL]

FIG. 10

Collect Data for Main Office

Retrieve Monthly Data
To be sent to Main Office

Select Month(s), and press Collect

Create Disk? Yes/No

Connect? Yes/No

January
February
March
April
May
June

[COLLECT] [CANCEL]

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FIG. 9

Set up New Store

Store Name	Store Number	City Number
[]	[]	[]

Highlight to Select New Store

Store

A	B
C	D
E	F

[ACCEPT] [CANCEL]

FIG. 11

Accept Data from Server

Store Name	Store Number	City Number
[]	[]	[]

Highlight to Select New Store

Available Stores

A	B
C	D
E	F

[CONNECT] [ACCEPT] [CANCEL]

Copy Data from Disk? Yes/No

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FIG. 12

Lipstick Color Families

Reds
Corals
Pinks
Naturals
Plums

Enter Number of Lipstick

Enter Number of Look

[ACCEPT] [CANCEL]

FIG. 14

Today's Product Selections

(1) Product Type	Color	Recommended
<input type="radio"/> (1) Lipstick	121	Recommended
<input type="radio"/> (2) Hydrolight	Bisque	Purchased
<input type="radio"/> (3) Mousse	Bisque	Recommended
<input type="radio"/> Look 321	Reds	Recommended
<input type="radio"/> Look 496	Plums	Recommended

[Recommended] [Purchase]
 [Sample] [Not Appropriate]
 [Remove] [Print]
 [Accept]

FIG. 13

Lipstick Family: Reds

022 Hollywood Red (Expert Fit)
033 Lush Red
244 Vintage
255 Gypsy
375 Baroque Red

[ACCEPT] [CANCEL]

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FIG. 15

Purchase History			
Last purchase:	Date	Date	Jane Doe
Total purchases:	2 (last)	12 (Past Year)	
Skincare (3)			
④(1) Ceramide Capsules	30 Jan	Purchased	
④(3) Hellenium Cream	30 Nov	Purchased	
④(2) Perfection Cream	30 Nov	Purchased	
Color (2)			
④(1) Flawless Finish (12)	30 Jan	Purchased	
④(1) Exceptional Lipstick (906)	30 Dec	Purchased	
Fragrance (1)			
④(1) Sunflowers	30 Oct	Purchased	
④(1) Red Door	30 Sep	Purchased	
Fragrance (1)			
④ Red Door	30 Jan	Sampled	Recommended
④ Exceptional Lipstick	30 Jan	Non-Appropriate	
④ Perfection Cream	30 Jan		

④ - Denotes product type icon

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FIG. 16

Pop-up 16	Pop-up 17	Pop-up 18	Pop-up 19
Probe Calibration	Switch to Set Cal. Plate	Ready to Read Color Title	Color Readying in Progress...
Probe not calibrated	Run color reader off and on.	Place Color Reader on the White Plate.	Press button on color reader twice slowly to record calibration color
Marinig: Skin Reader not calibrated - Continue anyway? (y or N)	Reader display should read Set Cal. Plate	Press (Enter) when ready!	Enter
	Reader button on color reader twice slowly	Press (Enter) when ready!	Stop!
	Probe calibrated, OK to continue?		Continue

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FIG. 17

Recommended Flawless Finish Foundation		
Product	Color	
Hausse	234	[Recommend]
Hydrolight	123	[Purchase]
Pressed Powder	Medium 2	[Sample]
		[Accept]

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FIG. 19

Language Selection		
[English]	[Spanish]	[French]

FIG. 20

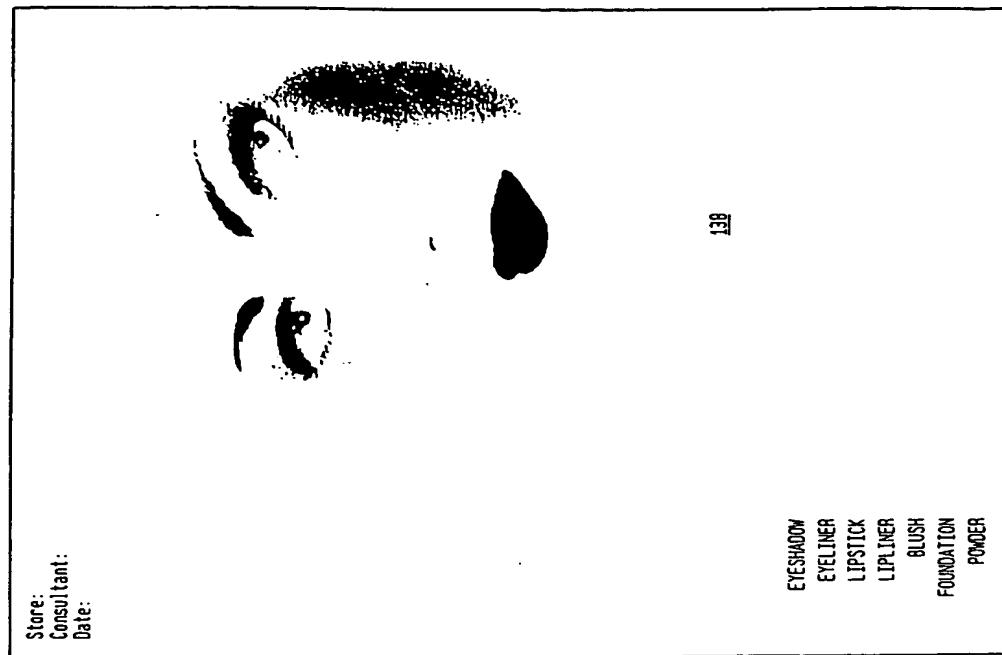
Search for Customer	
Name:	[Accept]
List of Names	Information On Selected Customer

FIG. 21

Treatment Color Product Options	
Product	Color
Skin Illuminating Complex	[Treatment] [Color] [Fragrance]
Millenium Night	[Purchase] [Sample]
Millenium Energist	[Recommend] [Not appropriate]
	[What's New]
	[ACCEPT] [CANCEL]

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FIG. 23



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FIG. 22

Skin Color Analysis	Color Enhancements Options	Skincare Analysis	Tone (Golden/Red)	Lighten color	Darken color	Show Colors	Cloose	Reduce Pink (add golden)	Reduce golden (add pink)	Matte	Natural
Preferred Finish:											

INTERNATIONAL SEARCH REPORT

Int. Search Application No
PCT/EP 00/05007

Classification of subject matter

According to International Patent Classification (IPC) or to both National classification and IPC
B. FIELDS SEARCHED
 Mainly documentation searching (classification system followed by classification symbols)
 ITPC 7 G06T

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
 PAJ, EPO-Internal, WPI Data, IBM-TDB, INSPEC

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Further documents are listed in the continuation of box C.

Parent family members are listed in annex.

Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "B" earlier document but published on or after the International filing date
- "C" document which may throw doubt on priority claim(s) or which is cited to establish the publication date of another claim or other special reason (as specified)
- "D" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the International filing date but later than the priority date claimed

Date of the actual completion of the International search

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 Form PCT/ISA/20 (second revised form) July 1992

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INTERNATIONAL SEARCH REPORT

Int. Search Application No
PCT/EP 00/05007

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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Form PCT/ISA/20 (second revised form) July 1992

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